JPRS 80776

11 May 1982

# Worldwide Report

## NUCLEAR DEVELOPMENT AND PROLIFERATION

No. 142

FBIS FOREIGN BROADCAST INFORMATION SERVICE

## NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

## PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS 80776

11 May 1982

# WORLDWIDE REPORT

## NUCLEAR DEVELOPMENT AND PROLIFERATION

No. 142

## CONTENTS

WORLDWIDE AFFAIRS

Canada's Supply of Nuclear Fuel to Argentina To Continue (LATIN, 24 Apr 82) ........ 1

Claims of Argentine, FRG Nuclear Involvement Rejected (AFP, 29 Apr 82) ........ 2

ASIA

AUSTRALIA

ACTU Hardens Anti-Uranium Stand, Opposes Roxby Action (Ted Knez; THE WEEKEND AUSTRALIAN, 13-14 Mar 82) ........ 3

BANGLADESH

Dacca To Have First Research Reactor by Mid-1983 (THE BANGLADESH OBSERVER, 2 Apr 82) ........ 4

INDIA

Briefs

Nuclear Complex Explosion 5

PAKISTAN

Foreign Minister Says Pakistan Cannot Become Nuclear War Theater (DAWN, 7 Apr 82) ........ 6

Briefs

Chashma Nuclear Project Approved 7
Chashma Capacity Increase Planned 7

### SOUTH KOREA

Government To Establish Nuclear Fuel Company
(THE KOREA TIMES, 29 Apr 82) .......................... 8

### TAIWAN

Sun Says Taiwan Needs Nuclear Power Stations
(Taipei International Service, 19 Apr 82) .............. 9

'AFP': Taiwan Nuclear Fuel Pallet Technology
(AFP, 22 Apr 82) ....................................... 11

## EAST EUROPE

### INTERNATIONAL AFFAIRS

CEMA Reaches Nuclear Generating Agreement
(TASS, 18 Apr 82) ...................................... 12

## LATIN AMERICA

### ARGENTINA

Castro Madero Underscores Significance of Nuclear Fuel Plant
(LA PRENSA, 10 Apr 82) ................................. 13

### GUYANA

Uranium Mining Agreement Signed With French Company
(GUYANA CHRONICLE, 20 Feb 82) .......................... 16

## SUB-SAHARAN AFRICA

### NIGER

Group Planning Uranium Mine Sabotage Arrested
(AFP, 24 Apr 82) ....................................... 17

## USSR

Davydov Blames U.S. for Nuclear Proliferation
(V. Davydov; KRASNAYA ZVEZDA, 20 Apr 82) ............... 18

Moscow Views Nuclear Nonproliferation Activity
(Various sources, various dates) ....................... 21

'IZVESTIYA' on Treaty Potential, by S. Tarov
'PRAVDA' Urges Measures

## WEST EUROPE

### FEDERAL REPUBLIC OF GERMANY

Nuclear Aid to Argentina To Be Addressed (DPA, 24 Apr 82) .......... 25

Government Again Denies Nuclear Aid to Argentina (DPA, 29 Apr 82) .......... 26

### FRANCE

Industry Minister Discusses Factories for Irradiated Fuel Treatment (REVUE GENERALE NUCLEAIRE, Jan-Feb 82) .......... 27

Budget, Personnel of Reactor in Grenoble Described (REVUE GENERALE NUCLEAIRE, Jan-Feb 82) .......... 29

Nuclear Materials Firm Reveals Uranium, Recycling Activities (REVUE GENERALE NUCLEAIRE, Jan-Feb 82) .......... 30

Activities, Layout of La Manche Radioactive Waste Facility (REVUE GENERALE NUCLEAIRE, Jan-Feb 82) .......... 33

South Korea Chooses Alsthom for Nuclear Equipment (REVUE GENERALE NUCLEAIRE, Jan-Feb 82) .......... 36

## CANADA'S SUPPLY OF NUCLEAR FUEL TO ARGENTINA TO CONTINUE

PY242215 Buenos Aires LATIN in Spanish 1403 GMT 24 Apr 82

[Text] Ottawa, 24 Apr (LATIN-REUTER) -- Prime Minister Pierre Trudeau today rejected a petition for Canada to suspend shipments of nuclear fuel for the reactor that it is building in Argentina and to withdraw Canadian technicians.

Canadian trade sanctions against Argentina--imposed after the Buenos Aires government occupied the Falkland Islands on 2 April--apply only to imports, Trudeau told members of Parliament who had told Trudeau that Argentina would use the reactor to fabricate nuclear arms.

Ian Waddell of the New Democratic Party demanded that the government suspend shipments of nuclear fuel worth $4 million which, according to Waddell, were being sent to Buenos Aires. Trudeau replied that Argentina had been comitted to adopting special safeguards when it signed the contract for the Candu heavy water reactor which is being finished near Buenos Aires.

Press reports had said that a cabinet document had expressed more serious concern than that expressed publicly by ministers over the possibility that Argentina might use the reactor in order to make atomic weapons.

CSO: 5100/2153

## CLAIMS OF ARGENTINE, FRG NUCLEAR INVOLVEMENT REJECTED

NC291309 Paris AFP in English 1241 GMT 29 Apr 82

[Text] Brussels, 29 Apr (AFP) -- The vice-president of the Commission of European Communities here today rejected claims that West Germany and Argentina were collaborating to produce nuclear weapons in Argentina.

The Argentina-West German deal does not violate the principle of peaceful use of nuclear power, CEC number two Etienne Davignon said, reacting to a British Broadcasting Corporation report.

He denied that fissionable materials had been misappropriated on West German territory, and said the International Atomic Energy Agency (IAEA) in Vienna recently said there were no incidents of misappropriation of nuclear power producing materials in Argentina either.

"Both countries abide by the clauses (of their agreement) pertaining to the peaceful use of nuclear materials and submit to the on-the-spot controls required by the EURATOM Treaty, the London Suppliers Group and the IAEA," he said.

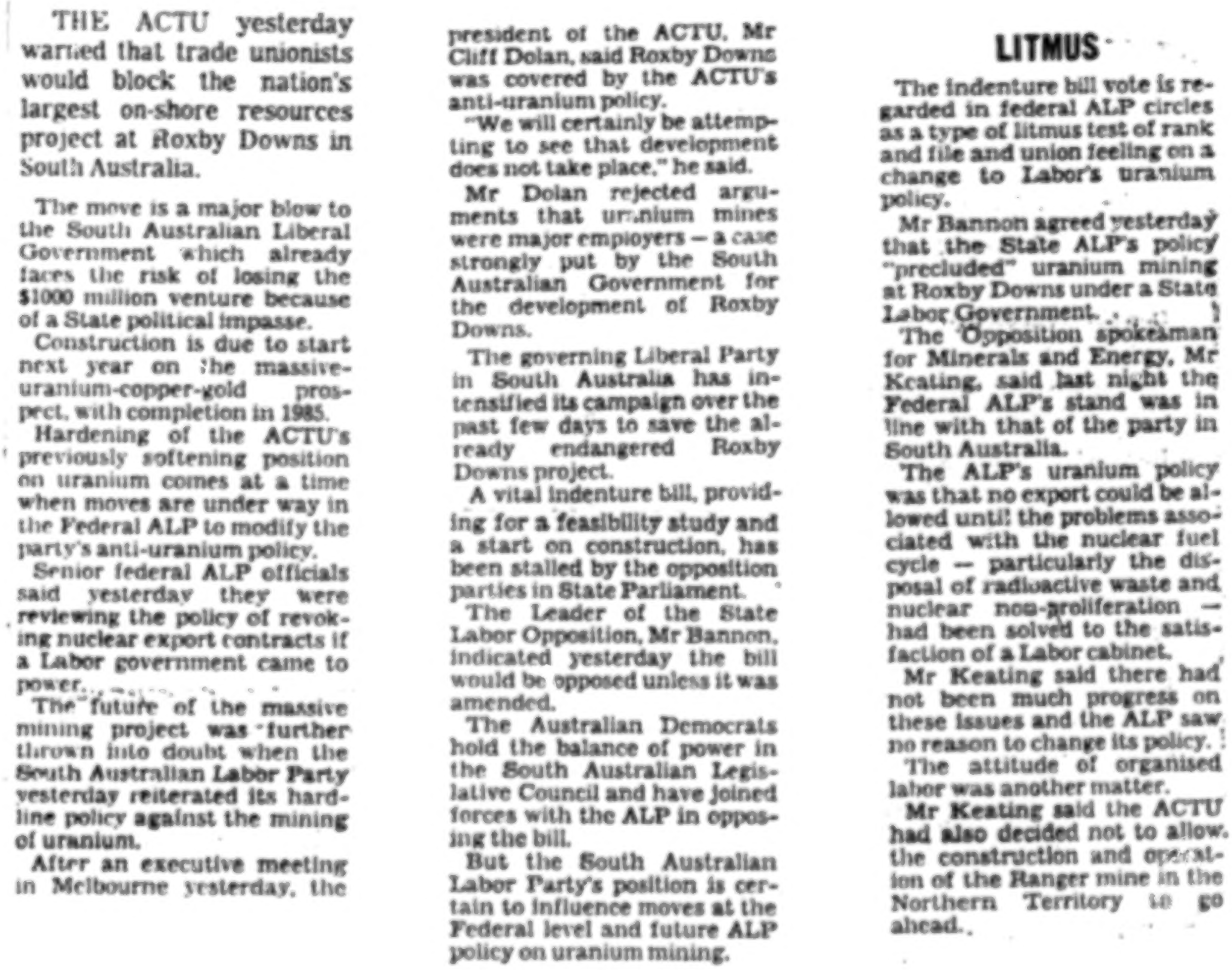
CSO: 5100/2153

## ACTU HARDENS ANTI-URANIUM STAND, OPPOSES ROXBY ACTION

Canberra THE WEEKEND AUSTRALIAN in English 13-14 Mar 82 p 1

[Article by Ted Knez]

[Text]



THE ACTU yesterday warned that trade unionists would block the nation's largest on-shore resources project at Roxby Downs in South Australia.

The move is a major blow to the South Australian Liberal Government which already faces the risk of losing the $1000 million venture because of a State political impasse.

Construction is due to start next year on the massive-uranium-copper-gold prospect, with completion in 1985.

Hardening of the ACTU's previously softening position on uranium comes at a time when moves are under way in the Federal ALP to modify the party's anti-uranium policy.

Senior federal ALP officials said yesterday they were reviewing the policy of revoking nuclear export contracts if a Labor government came to power.

The future of the massive mining project was further thrown into doubt when the South Australian Labor Party yesterday reiterated its hard-line policy against the mining of uranium.

After an executive meeting in Melbourne yesterday, the president of the ACTU, Mr Cliff Dolan, said Roxby Downs was covered by the ACTU's anti-uranium policy.

"We will certainly be attempting to see that development does not take place," he said.

Mr Dolan rejected arguments that uranium mines were major employers — a case strongly put by the South Australian Government for the development of Roxby Downs.

The governing Liberal Party in South Australia has intensified its campaign over the past few days to save the already endangered Roxby Downs project.

A vital indenture bill, providing for a feasibility study and a start on construction, has been stalled by the opposition parties in State Parliament.

The Leader of the State Labor Opposition, Mr Bannon, indicated yesterday the bill would be opposed unless it was amended.

The Australian Democrats hold the balance of power in the South Australian Legislative Council and have joined forces with the ALP in opposing the bill.

But the South Australian Labor Party's position is certain to influence moves at the Federal level and future ALP policy on uranium mining.

### LITMUS

The indenture bill vote is regarded in federal ALP circles as a type of litmus test of rank and file and union feeling on a change to Labor's uranium policy.

Mr Bannon agreed yesterday that the State ALP's policy "precluded" uranium mining at Roxby Downs under a State Labor Government.

The Opposition spokesman for Minerals and Energy, Mr Keating, said last night the Federal ALP's stand was in line with that of the party in South Australia.

The ALP's uranium policy was that no export could be allowed until the problems associated with the nuclear fuel cycle — particularly the disposal of radioactive waste and nuclear non-proliferation — had been solved to the satisfaction of a Labor cabinet.

Mr Keating said there had not been much progress on these issues and the ALP saw no reason to change its policy.

The attitude of organised labor was another matter.

Mr Keating said the ACTU had also decided not to allow the construction and operation of the Ranger mine in the Northern Territory to go ahead.

CSO: 5100/7523

# DACCA TO HAVE FIRST RESEARCH REACTOR BY MID-1983

Dacca THE BANGLADESH OBSERVER in English 2 Apr 82 p 8

[Text] The country's first research reactor will be commissioned in mid-1983. The construction work to house the US origin three megawatt reactor is now going on at the Savar complex of Bangladesh Atomic Energy Commission.

Dr. Herman Vera Ruiz, an expert from International Atomic Energy Agency (IAEA) on radioisotope visited the construction site to assess the technological capability and the technical assistane needed in this regard. During his three day stay in the capital he had four technical sessions with the senior officials of Bangladesh Atomic Energy Commission (BAEC). He also had discussion with the BAEC Chair man Dr. Anwar Dossain on production of radioisotope. BAEC has taken up a scheme to produce radioisotope.

BSS adds: Dr. Herman Vera Ruiz, an expert of the International Atomic Energy Agency (IAEA) left Dacca on Wednesday for Vienna after three days of discussions with the officials of Bangladesh Atomic Energy Commission (BAEC).

According to a BAEC Press release, Dr. Ruiz held talks with Dr. Anwar Hossain, Chair man of the Commission and other scientists in connection with providing IAEA technical assistance for production of radio-isotope by the Bangladesh Atomic Energy Commission which has taken up a scheme to produce Radio-isotope locally.

Dr Vera Ruiz who is working in the industrial application and chemistry section under the Division of Research and Laboratories of IAEA, Vienna also visited the Savar complex and Institute of nuclear medicine at the P.G. Hospital.

Radio-isotope has a long range of use in medical diagnosis, in industry for easy detection of complicated faults and in agriculture for developing High Yielding Varieties of crops. It has also use in other fields of research utilizing the 3 megawatt triga mark II research reactor recently procured from the United States and is under construction at Savar near Dacca, the Press release added.

CSO: 5100/7075

## BRIEFS

NUCLEAR COMPLEX EXPLOSION--Bombay, March 31: The department of atomic energy today termed the explosion at the Nuclear Fuel Complex, Hyderabad, last week as a "minor incident." According to a spokesman, production at the complex will not be affected. The accident occurred in the reduction furnace where Zirconium Chloride is reduced with magnesium chloride. During regular operation of the plant, some defect was noticed in the pressure system and the plant was shut down. Following this, the furnace lid blew off, causing damage to the asbestos sheets and some glass panes, it was stated. There were no casualties, according to the spokesman. [Text] [Bombay THE TIMES OF INDIA in English 1 Apr 82 p 4]

CSO: 5100/7074

## FOREIGN MINISTER SAYS PAKISTAN CANNOT BECOME NUCLEAR WAR THEATER

Karachi DAWN in English 7 Apr 82 pp 1, 6

[Text] **ISLAMABAD, April 6: The Foreign Minister, Sahabzada Yaqub Khan, today said there was no ground for alarm that Pakistan could become the theatre for any confrontation between the superpowers.**

He was speaking in the Majlis-i-Shoora on an adjournment motion, seeking to discuss a quoted statement of American experts on behalf of the US President in Congress wherein it was said that a future atomic war will be fought in countries like Pakistan and Afghanistan instead of Europe. The motion was moved by Mr Zahoorul Hasan Bhopali.

Pointing out that the motion was based on a speculative newspaper report, Sahabzada Yaqub Khan said Pakistan was following a policy of genuine non-alignment and had steadfastly worked for the reduction of tension, both in this region and elsewhere.

Pakistan, he said, had consistently worked for a peaceful settlement of the Afghanistan crisis. It had also taken the initiative to start a dialogue with India for the conclusion of a non-aggression pact. Its efforts to bring about peace between Iran and Iraq were recognised everywhere.

In the case of the Persian Gulf, which was mentioned in the news story mentioned by Mr Bhopali in his adjournment motion, the Foreign Minist[illegible] Pakistan had always tak[illegible] stand that the security of the Gulf was the concern of the littoral States themselves.

On the larger Middle East question Pakistan had tirelessly worked with its Arab brothers for a just und honourable solution so that a major threat to world peace and security was removed. There was, therefore, no ground for such alarm, he added.

Sahbzada Yaqub Khan pointed out that the United States budget, announced in February 1982, showed an increase in defence spending. In his budget speech, the US President outlined the reasons why the defence expenditure was going up, emphasising that the increase was there to correct certain deficiencies in the US defensive capability.

The United States, he added, was a super-Power with interests in many parts of the world. It was not for Pakistan to assess its defence requirements, however, no part of the budget presentation by President Reagan could be construed to form the basis of the report referred to in the adjournment motion, he stressed.

The news report mentioned in the motion, Sahabzada Yaqub said, ascribed the view to some unnamed American experts that a future nuclear war would be waged in countries like Pakistan. This was fanciful and far-fetched, the added.

He said Pakistan was a non-aligned country, enjoying good relations with nearly all the major Powers, including the United States and the Soviet Union. There was no reason why it should figure in any confrontation between the super-Power he added.

Pakistan, Shabzada Yaqub said, had always been in the forefront of the efforts to prevent the spread of nuclear weapons and eliminate all possibilities of a nuclear holocaust. Its proposal to create a nuclear-weapon-free zone in South Asia and its consistent support to the proposal for denuclearisation of the Indian Ocean and its littoral countries reflected this policy. Furthermore, Pakistan had been the prime mover of the UN call for security assurances to non-nuclear weapon states against the use or threat of use of nuclear weapons by nuclear powers.

However, the Foreign Minister said, if, despite all the international efforts, a nuclear war did break out, it would be meaningless to talk in terms of specific areas. In such a war, he added, the very survival of mankind would be at stake.

After the Minister's statement, Mr Bhopali did not press the motion.

CSO: 5100/5646

## BRIEFS

CHASHMA NUCLEAR PROJECT APPROVED--The ECNEC approved Chashma nuclear power project envisaging installation of 937 mw nuclear generation capacity plant at Chashma. The decision to resort to nuclear power generation has been necessitated by acute shortage of power in the country during winter due to low flows of river waters and resultant decline in hydel potential. As the oil-based generation has become very expensive due to ascending prices of fuel, and surplus gas is not available for commitment to operate a unit of 500 mw capacity plant, the only cheaper alternative available for Pakistan is to go for nuclear power generation. The project, which is stipulated to reach completion by mid-1988, will involve a total investment cost of Rs 16,818.00 million, including foreign exchange component of Rs 9,965.00 million. [Excerpt] [Karachi BUSINESS RECORDER in English 14 Apr 82 p 1]

CHASHMA CAPACITY INCREASE PLANNED--On 13 April 1982 Pakistan announced that it intends to increase the production capacity of the Chashma nuclear power center, presently under construction, which is located about 250 kilometers southwest of Islamabad. This production capacity which was originally to be 600 megawatts will be increased to 937 megawatts according to the same source which also added that the project, which will cost more than 1.6 billion dollars will be completed in 1988. [Text] [Paris LE MONDE in French 17 Apr 82 p 6]

CSO: 5100/5648

SOUTH KOREA

## GOVERNMENT TO ESTABLISH NUCLEAR FUEL COMPANY

SK290211 Seoul THE KOREA TIMES in English 29 Apr 82 p 7

[Text] A nuclear fuel company will be established next month under a government program to fabricate nuclear fuel in the late 1980's, the Energy Resources Ministry said yesterday. According to the ministry, the planned nuclear fuel fabrication plant with a rated capacity of 200 tons of uranium will be established by the end of 1988. A total of 53.1 billion won at 1981 constant prices will be invested in the fabrication project, which will be set up in a joint venture between local and foreign companies.

The Korea Electric Power Corporation (KEPCO) and the Korea Advanced Energy Research Institute (KAERI) will form the nuclear fuel company next month. The ministry said a foreign partner in the local fuel fabrication project would be selected by the end of next month. The tie-up company will be owned 51 percent by KEPCO and KAERI and the remaining 49 percent by the foreign company.

If locally produced, the ministry said, the projected 200 tons of uranium would fuel 10 pressurized water reactors a year. The ministry pointed out that the fabrication project would enable the nation to provide nuclear fuel enough to meet the nation's needs from 1989. At present, the nation's first nuclear power plant, with a capacity of 587 megawatts, is in operation and eight other plants are under construction. The fabrication project is part of the government plan to reduce the heavy dependence on oil and to fabricate nuclear fuel locally to meet the ever-increasing demand. From a long-term viewpoint, the ministry said, the project will have considerable effect of saving foreign reserves. According to the timeschedule for the project, design of the fabrication plant will be completed by the end of 1985 and the plant building will be erected in June, 1987.

CSO: 5100/2153

## SUN SAYS TAIWAN NEEDS NUCLEAR POWER STATIONS

OW190911 Taipei International Service in English 0100 GMT 19 Apr 82

[Text] The most widely circulated French-language weekly news magazine, LE POINT, or THE POINT, has quoted Premier Sun Yun-hsuan of the Republic of China as saying that the Republic of China is in need of a good-enough nuclear power station in every 2 years and there are many good opportunities for France to build the next one in the near future as a result of strengthening of substantial relations between France and the Republic of China through scientific and technical cooperation.

The French weekly news magazine contributed a two-page exclusive interview-story with Premier Sun by its special envoy (George Defferre), senior adviser and one of the founders of LE POINT, who is the first French journalist to interview Premier Sun in Taipei in 1982. Premier Sun told more than half a million French readers of LE POINT that the Republic of China in Taiwan serves as a lighthouse and hope of millions of people in mainland China who are under the yoke of Chinese communists and who know our condition of living. The full text of the exclusive interview granted by Premier Sun to (Defferre) is as follows:

Question: You are almost isolated diplomatically. Why don't you declare yourself as independent?

Premier Sun answered: By remaining China, we are the hope of millions of people in mainland China who know our condition of living, and we will not let Overseas Chinese who support the [words indistinct] cause of Taiwan to be disappointed.

Another question is whether the Peking regime is changing?

Premier Sun answered: Indeed, it authorizes small private property and is willing to promote exchanges. But the rigidity of communism will block up the application of those reforms.

Why France didn't obtain the contract of your fourth nuclear power station, (Defferre) continued to ask.

Premier Sun answered: Your country was in a good position, and your technology is one of the best in the world. But Americans proposed a long-term credit, and that was more favorable. And (?could) electric power consumption would be doubled within 10 years. [sentence as heard] We will be in need of a new nuclear power station in every 2 years. There are many good opportunities for your country to build the next one. We have decided to establish durable relations with you.

And how is the plan of the underground subway in Taipei?

Answer: You are also in a good position in that aspect. In addition to France, there are Americans and Japanese who will soon ask for offers.

(Defferre), the journalist from the French newspaper, also asked: Why do you want to manufacture automobiles?

Premier Sun answered: Because we will be competitive. For the time being, a contract with the Renault. [sentence as heard] Thirty percent of spare parts will be imported from France, and we will produce the rest of it. Afterwards, we will sign a contract either with Toyota or Nissan. Forty percent of the capital will be Japanese and 60 percent will be ours. Do you think the Japanese will put so much money to the game if they don't believe in our success? The robot didn't scare us away because we don't have enough of manpower.

Do you still believe in an attack from Communist China, was the question.

And the answer: Actually it is not likely for the time being. Peking [as heard] is keeping its troops on the Russian and Vietnamese frontiers, and then they are short of landing material. However, the international situation is changing. For the purpose of defending ourselves, we need only aircraft and ships. The sea will take care of the rest. At present, we have American weapons. However, there are other manufacturers.

The French mass-circulation weekly news magazine also carried a blow-up, black-and-white picture showing (Defferre) as taking notes while interviewing Premier Sun in Taipei.

CSO: 5100/2153

## 'AFP': TAIWAN NUCLEAR FUEL PELLET TECHNOLOGY

OW221307 Hong Kong AFP in English 1258 GMT 22 Apr 82

[Text] Taipei, 22 Apr (AFP) — Taiwan's research center has successfully developed new technology for making nuclear fuel pellets of uranium dioxide, it was learned here today.

A research center report said the development provides a reference for process design in the manufacture of nuclear fuel at a future pilot plant in Taiwan. The research center has been studying the up-to-date technology for making nuclear fuel from uranium dioxide (UO2) in order to strengthen the self-reliance of Taiwan's nuclear industry.

The report said the newly developed manufacturing process of uranium dioxide from ammonium uranium carbonate (AUC) was better than the conventional one because it was simpler.

The report said that the powdered uranium dioxide manufactured from ammonium uranium carbonate had excellent fluidity and could be directly compressed into fuel pellets without going through the process of pre-pressure and other treatment. The consumption of the pellets was 92 to 98 percent, in accordance with international specifications, the report added.

The report said that the up-to-date technology of manufacturing uranium dioxide from ammonium uranium carbonate had been classified confidential by the advanced [word indistinct] countries.

CSO: 5100/2153

# CEMA REACHES NUCLEAR GENERATING AGREEMENT

LD190958 Moscow TASS International Service in Russian 2208 GMT 18 Apr 82

[Summary] Moscow, 19 Apr (TASS) -- The latest session of the intergovernmental commission on the coordination of cooperation between CEMA member countries was recently held in Berlin. Participants from Bulgaria, Hungary, the GDR, Poland, Romania, the USSR, the CSSR and Yugoslavia discussed multifaceted international specialization and cooperation in the production and mutual supply of equipment for atomic powerplants [AES], PRAVDA writes today.

CEMA member countries have taken a course aimed at intensifying the construction of atomic powerplants, and a major agreement has been concluded which envisages specialization and cooperation in the production of equipment for AES's.

The intergovernmental commission stated that cooperation in the production of equipment for AES's is developing and strengthening. In the present 5-year plan, the transition to production of equipment for AES's of a new generation, with reactor installations of the VVER-1,000 type, which have 1 million kw capacity, is being effected. One power set in such an AES is capable of generating in 1 year as much power as can be produced from burning 2 million tons of organic fuel.

The commission has drawn up specific measures directed toward the punctual provision of AES's under construction in the CEMA member countries with equipment which is of high quality, reliable and safe in operation.

CSO: 5100/2153

# CASTRO MADERO UNDERSCORES SIGNIFICANCE OF NUCLEAR FUEL PLANT

Buenos Aires LA PRENSA in Spanish 10 Apr 82 p 8

[Article:"CNEA Has Opened a Nuclear Fuel Element Factory"]

[Text] At a ceremony at which the head of the National Atomic Energy Commission [CNEA], Vice Adm (ret) Dr Carlos Castro Madero, officiated, the Nuclear Fuel Element Factory, which will be run by the mixed company Conuar, Inc, was opened at the Ezeiza Atomic Center.

The function was attended by national, Armed Forces and security officials. In a message, Castro Madero stressed the importance of the plant which has been opened, the first of its kind in Latin America.

The factory will supply fuel to the Argentine nuclear powerplants, initially supplying those of Atucha I, Embalse and Atucha II, in a consecutive fashion, and later expanding its capacity to provide for the other three which are planned to go into operation before 1997.

The head of the CNEA stated in his message that, with the opening of this factory, a decisive step is being taken toward the mastery of the fuel cycle and toward national self-sufficiency in the nuclear field.

## From Castro Madero

Castro Madero remarked: "This achievement, with national and international projections, means that Argentina has acquired an actual technological and industrial capacity in a field which, up until now, has been limited to the most developed nations of the world."

He explained: "The importing of any technological or industrial development or innovation causes, simultaneously with a positive effect on progress and prosperity, a potential risk of economic dependence, or of a kind of scientific and technical colonialism."

He noted: "The nuclear electrical field is one wherein this rule applies particularly. The special features of the world market, the limited number of supplying countries and the heavy political and special interest pressures which typify it necessarily require avoiding those detrimental effects."

He subsequently commented that, "Nuclear fuel is a decisive factor, and therefore a constant, reliable supply must be insured."

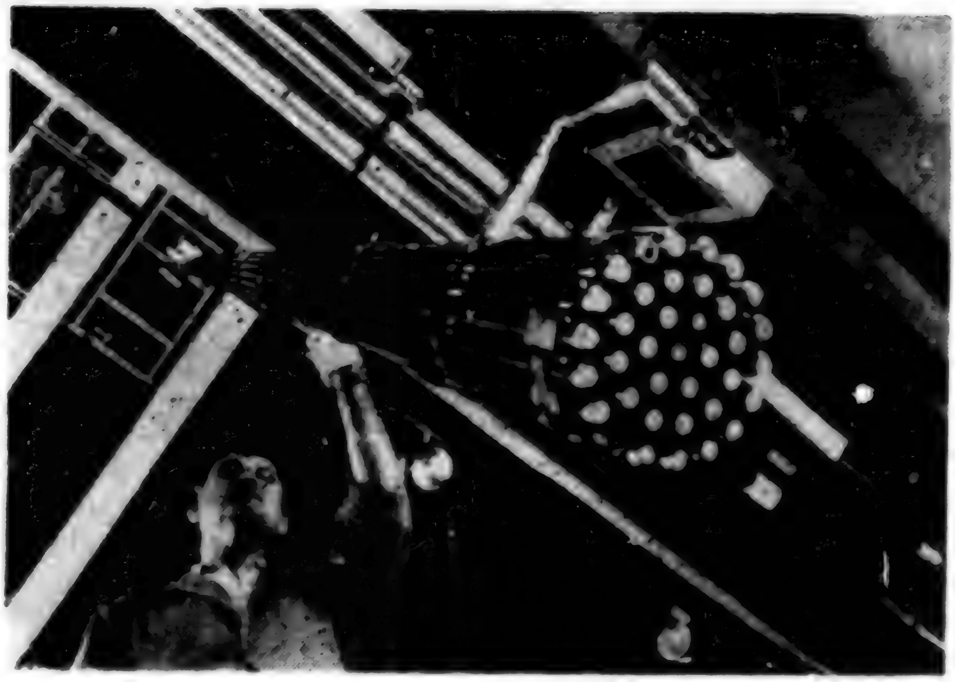
He added: "This stipulation necessitates the accomplishment in our country of all the phases for the production of nuclear fuel, from uranium exploration to the delivery of the fuel elements to the reactor."

He then emphasized that, in this context, the factory which has been opened "will make it possible to provide for a highly important phase in the mastery of the nuclear fuel cycle," by insuring a normal and economical supply of it for the country.

He later recalled that the pilot plant created in 1976 had produced 218 fuel elements, representing 86 percent of the core of Atucha I and over 50 percent of its annual consumption, with a quality level that is indistinguishable from that of imports.

He later stressed the fact that, in compliance with the principle of the subsidiary role of the state, a corporation had been set up for the factory with a majority participation by national private capital, on terms that guarantee the state's decision-making power.

Castro Madero asserted: "The type of action adopted makes it possible to guarantee that the country will have control of the nuclear fuel that it consumes, including its cost, and that it will also have the technological mastery, and hence the security of being able to continue bringing into the country improvements in design and new developments in the field of nuclear fuels."



Final installation of a fuel element, consisting of 36 fuel bars and one for support. The zircaloy rods contain uranium in the form of dioxide cake.

2909
CSO: 5100/2149

## URANIUM MINING AGREEMENT SIGNED WITH FRENCH COMPANY

Georgetown GUYANA CHRONICLE in English 20 Feb 82 p 20

[Text] **THE GUYANA Government and the French mining firm, COGEMA, Thursday signed what has been described as a "definitive agreement paving the way for further exploration for uranium in Guyana".**

Provision for matters affecting the payment of royalties, waste disposal and the training of Guyanese personnel are some of the salient features of the new contract which was signed at the boardroom of the Guyana Geology and Mines Commission on Brickdam.

COGEMA has been conducting preliminary surveys in the country during the past two years and has expressed satisfaction at the results obtained so far.

The contract also makes allowance for joint venture participation in the extraction of uranium in Guyana should the mineral be discovered in commercial quantities. According to an informed source, joint venture participation may possibly include the setting up of a COGEMA/GUYANA mining company and a treatment plant.

At the signing ceremony, Energy and Mines Minister, Hubert Jack, noted that COGEMA has developed a high reputation of efficiency and success in the mining of uranium. He described the contract as having the potential for further devloping relations between Guyana and France, a feature which was enhanced by the talks held between President Burnham and French President Francois Mitterrand during the Cancun summit.

*Cde. Jack said he is looking forward to fruitful association between COGEMA and* **GUYANA**

Under the terms of the contract, COGEMA is expected to submit monthly progress reports which will include, among other things, technical and geophysical information. Exploration will be carried out in several succeeding phases, each defining in more precise terms the resources which are available.

Honorary Consul for France, Lloyd Luckhoo, has described the GUYANA/COGEMA contract as an important step in the promotion of economic development in Guyana.

Signing the 108-page document on behalf of Guyana, was Minister Hubert Jack, Commissioner of Geology and Mines, James Poonwasi and Permanent Secretary of the Ministry of Energy and Mines, Henry Bovell.

Marcel Baron, head of the COGEMA team, Michel Berville, deputy manager, mineral explorations department, and Rene Bousquet, head of the COGEMA mission in Guyana signed for the French firm. —

CSO: 5100/7522

## GROUP PLANNING URANIUM MINE SABOTAGE ARRESTED

AB241335 Paris AFP in English 1217 GMT 24 Apr 82

[Text] Niamey, April 24 (AFP) -- Police in Niger have arrested 14 men of the Tuareg people, all but one of them from neighbouring Mali, who intended to sabotage the uranium mines at Arlit, a source close to the presidency said today.

On their arrest on April 9 and 10 the men said they were linked with Abdoulaye Diori, son of Niger's former President Hamani Diori, who was overthrown in 1974 by the armed forces and is still under house arrest.

The source said Abdoulaye Diori was involved in various smuggling rackets between France, Libya, Ivory Coast and Nigeria. He had also been seen in Chad.

The Tuareg group -- the 14th member was said to be from Niger while a 15th, also a Malian, had escaped arrest -- entered Niger unarmed, from an unspecified country, and there was no indication where they would obtain weapons or explosives.

The announcement of the arrests came a day after Niger President Seyni Kountche denounced the activities of "certain elements from the former RDA (African Democratic Rally) party", which was led from Niger's independence up to 1974 by Hamani Diori.

Arlit, situated 1,200 kilometres (750 miles) northeast of Niamey, has two large uranium mines.

CSO: 5100/2153

## DAVYDOV BLAMES U.S. FOR NUCLEAR PROLIFERATION

PM231521 Moscow KRASNAYA ZVEZDA in Russian 20 Apr 82 p 3

[Candidate of Historical Sciences V. Davydov article: "The Fruits of Adventurism: Washington Is Helping to Proliferate Nuclear Weapons"]

[Text] The R. Reagan administration's course of whipping up the arms race, exacerbating international relations and suppressing the peoples' liberation struggle has led to a sharp increase in the threat of the further proliferation of nuclear weapons on our planet. The probability has now increased that a number of so-called "near-nuclear" states not party to the treaty on nuclear nonproliferation (1968), like Pakistan, Israel and South Africa, could embark on the path of an open nuclear arms race. The rulers of those states, in order to realize their nuclear ambitions, cunningly exploit Washington's interest in stepping up their contribution to American imperialism's global strategy.

The possibility of an uncontrolled expansion of the "nuclear club" is fraught with unpredictable, pernicious consequences for international security. It is not hard to imagine where the development of events could lead if the arsenals of such quarrelsome countries as, for instance, Israel were to include nuclear weapons too. An increase in the number of nuclear states would also cause extreme complications on nuclear disarmament questions, which require urgent resolution now more than ever before.

As of now 117 states have signed and ratified the nonproliferation treaty. But some 50 countries still have not accepted it, including nuclear powers -- the PRC and France.

There are still forces in the world which seek to obtain nuclear weapons in order to threaten freedom-loving peoples. In this situation great significance is attached to the tasks of cutting short such attempts by reactionary regimes and implementing a consistent policy in the sphere of nonproliferation. Annual UN General Assembly resolutions call for this, and it is advocated by the Soviet Union, the fraternal socialist countries and most of the states of the world community.

What is Washington's approach to the resolution of these problems? It is declared at a high official level that the nonproliferation of nuclear weapons is "one of the main aims of U.S. national security and foreign policy." The extent to which these words correspond to practical actions can be seen from the American approach to relations with potential members of the "nuclear club."

Pakistan, for instance, sees the United States as the main champion of its hegemonist policy in South Asia. That is why the Reagan administration obtained from Congress the lifting of the "Symington-Glenn amendment" to the law on military aid, which banned arms deliveries to countries carrying out secret work in the nuclear sphere. It was decided to sell Islamabad, along with other military hardware and armaments, 40 F-16 fighter-bombers, which could be used as a means of delivery of nuclear wapons. Even in the United States this was seen as encouragement for the nuclear ambitions of Ziaul Haq's dictatorial regime. Senator A. Cranston noted, not with sarcasm: "If I were the leader of Pakistan I would take this step to mean that I can detonate a bomb and U.S. aid will continue."

Washington officials assert that conventional arms deliveries will slow down the rate of Pakistan's nuclear preparations. The fact that such preparations are in full swing there is no secret in the United States. The American administration recently sanctioned an information leak from a secret CIA report asserting that solely "thanks to American aid" Pakistan has postponed for 2 or 3 years the nuclear weapons test which it planned to conduct in late 1982. But it should be obvious that if Islamabad did adopt such a decision, it was dictated by its desire to obtain as much American military hardware as possible before openly declaring itself a new nuclear state.

The world press reports that Pakistan is continuing to stockpile nuclear technology and materials which could be used for military purposes.

Military deliveries to Ziaul Haq's regime and Washington's desire to interfere in the affairs of the countries of the Indian subcontinent have already led to an appreciable increase in tension in South Asia. Islamabad's nuclear ambitions cause legitimate concern in neighboring India, which has declared that it will be forced to adopt appropriate measures if Pakistan becomes a nuclear state. In this connection the American journal FOREIGN POLICY warns: "The United States is increasing the danger that military operations using conventional armaments in South Asia could lead to a nuclear conflict."

U.S. "stragetic cooperation" with another "near-nuclear" state -- Israel -- is producing luxuriant militarist blossoms. The chief U.S. ally in the Near East receives very large consignments of modern American armaments. In 1982 alone Washington has pledged to grant Israel military and economic aid to the tune of $2.5 billion. Yet even by CIA assessments Israel may have already created nuclear weapons and be now rapidly progressing toward the creation of delivery vehicles. It is the aim of the Israeli aggressors -- an aim which is fully in accordance with U.S. interests -- to dictate their capitulation terms to Arab countries "from a position of strength." Such diktat, Tel Aviv believes, would be irresistible if it were based not only on conventional but also on nuclear weapons.

The United States is also extending its military-political cooperation with racist South Africa, which Reagan has called a "friendly and allied" state. Washington sees South Africa as a candidate for the role of regional gendarme in the south of the African Continent and intends to obtain military bases on its territory, on the basis of which it plans to gain control of the southeastern Atlantic and the southwestern sector of the Indian Ocean.

Pretoria's rulers have their own plans. In offering their services to the United States and NATO they make no secret of their nuclear lusts. Thus L. Barnard, head of the South African intelligence service, has stated that they should develop nuclear weapons before it is too late, as "weapons of last resort" in the struggle against national liberation forces.

The facts show that in this extremely dangerous venture the racists are receiving support from across the ocean. According to a Washington POST report the American industrial companies (EDLOU) International and (SVUKO) have made available to the apartheid state more than 100 tons of enriched uranium, which is needed for the manufacture of the atom bomb. And according to the Johannesburg STAR the Reagan administration has given the American corporation Control Data permission to sell South Africa two computers which, as American Congressman William Gray warned, could be used to calculate the yields of nuclear charges and explosions.

Thanks to aid from Western countries the South African Army already has Canberra and Mirage planes capable of carrying nuclear bombs and missiles. According to Western press reports South Africa and Israel are carrying out work in an atmosphere of the utmost secrecy on creating nuclear submarines and cruise missiles.

In 1979 and 1980 mysterious flashes occured south of the South African coast. In the opinion of a number of foreign experts these could have been nuclear tests carried out by the South African racists. Let us recall that back in 1977 South Africa was about to test a nuclear bomb. At that time it was only thwarted because of a timely Soviet warning given in a TASS statement.

Not so long ago South Africa's racist bosses and Chile's fascist junta exchanged visits by high-ranking military delegations. In the course of the talks there was discussion of creating a South Africa-Chile axis, which U.S. ruling circles regard as one of the most important possible levers for the implementation of their South Atlantic strategy.

These contacts are particularly sinister in the light of South Africa's nuclear aspirations and of a report which appeared even earlier in Chile's EL MERCURIO newspaper on the possibilities which exist for creating an atom bomb in Chile.

The Reagan administration's course of strengthening the military potential of Pakistan, Israel, South Africa and other countries and extending military-political cooperation with them is becoming increasingly evident. This at least indicated a U.S. departure from the commitment to actively oppose the nuclear ambitions of countries preparing to challenge the policy of nonproliferation of nuclear weapons. Moreover, as foreign observers note, the impression is created that Washington is embarking on a risky "game" in the hope that the new nuclear states having allied or friendly relations with it could create an additional threat to the socialist and developing countries and thus make it easier for U.S. imperialism to achieve military advantages on a global scale. But such calculations are as adventurist as they are shortsighted, since sooner or later they will rebound on their originators.

As you see, Washington is verbally calling on others not to create nuclear weapons but in practice itself regards these weapons as the main means of implementing its hegemonist policy and actually connives at the nuclear ambitions of antipopular regimes which are to its liking. This hypocritical behavior cannot fail to significantly weaken the effectiveness of the nonproliferation treaty.

As Comrade L.I. Brezhnev has stressed, the spread of nuclear weapons from one country to another "will increase the danger of a nuclear conflict breaking out, even by accident. Then no 'nuclear umbrellas' will provide cover against the lethal storm." To put an end to American imperialism's nuclear adventurism -- that is the peoples' resolute demand.

CSO: 5100/2153

# MOSCOW VIEWS NUCLEAR NONPROLIFERATION ACTIVITY

## 'IZVESTIYA' on Treaty Potential

PM161047 Moscow IZVESTIYA in Russian 2 Apr 82 Morning Edition p 5

[Article by S. Tarov: "Dialogue, Not Confrontation"]

[Text] The foreign press and political and public figures in various countries of the world continue to devote great attention to the new constructive proposals advanced by L.I. Brezhnev, general secretary of the CPSU Central Committee and chairman of the USSR Supreme Soviet Presidium, at the 17th USSR Trade Union Congress and in his Tashkent speech. They are beginning to come to the conclusion that these proposals deserve responsible examination in North Atlantic bloc capitals, too. The growing antiwar movement has spread from Europe to the United States. The American public, politicians and congressmen are calling on the U.S. administration to heed the voice of realism and reason and to understand that it is a matter of curbing the arms race and averting the threat of world nuclear war.

The new proposals reflected the Soviet Union's consistent and principled course toward eliminating the danger of war. The problem of reinforcing the nonproliferation of nuclear weapons occupies an important place in the Soviet Union's multipronged struggle to avert the threat of nuclear war. An unprecedented arms race, colossal appropriations for military purposes, the aggravation of the international situation and the kindling of militarist hysteria -- these are the chief components of the current foreign policy of the United States and its closest military and political allies. This lends the problem of nonproliferation of nuclear weapons special acuteness and topicality.

According to the International Atomic Energy Agency (IAEA), the capacities of nuclear power stations will account for 26 percent of world energy capacity by the end of the current century, and finished production of plutonium will reach 1.5 million kg.

Yet a 20-kiloton atomic bomb capable of producing an explosion as in Hiroshima requires a mere 8 kg of plutonium. Imagine the real scale of the danger threatening the peoples of the planet.

The treaty on the nonproliferation of nuclear weapons, which came into force in 1970 and to which 118 states are now party, has proved to be a highly valuable document in international law serving the cause of protecting peace and barring the way to thermonuclear catastrophe. The states which have signed the treaty have not broken their pledges during this time. The pledge of all the parties to the treaty not to pass fissionable materials or equipment to a nonnuclear state, unless IAEA control is extended to them, has also been observed.

Thus, the treaty has effectively served the interests of all countries. Its conclusion was an important step on the path of curbing the nuclear arms race. It laid a solid foundation for the development of fruitful international cooperation in the cause of the peaceful use of nuclear energy.

In the present international situation, which has been complicated through the fault of the United States, both the desire of a number of countries to possess nuclear weapons and the intentions of certain developed Western countries to expand the transfer of nuclear equipment, materials and technology to other countries, are being manifested with increasing persistence. And this could become a channel for the proliferation of nuclear weapons. In these conditions there is an increase in the importance of measures aimed at preventing the transfer of nuclear equipment, materials and technology from resulting in the proliferation of nuclear weapons.

With the help of measures to monitor states' nuclear programs, the IAEA could determine that nuclear fuel is not being used for military purposes. Under conditions in which the treaty's opponents are trying to undermine nonproliferation, it is especially important to seek to expand the circle of parties to the treaty. Let us note that two nuclear states -- China and France -- and a whole range of "subnuclear" countries have still not become party to the treaty. An improvement in the system of IAEA guarantees, an increase in its effectiveness and tighter monitoring of nuclear exports should also be sought. These demands are highly urgent.

The Soviet Union is tirelessly seeking to increase the treaty's effectiveness, avert the dangerous saturation of nonnuclear states with nuclear weapons, ensure their security with the help of guarantees and also guard these countries themselves from the temptation to acquire such weapons. On the initiative of the USSR, not only was the treaty on nonproliferation adopted but every subsequent year there has also been wide discussion of the question of guarantees in the Security Council, at UN General Assembly sessions and in the Disarmament Committee. The USSR believes that to prevent the proliferation of nuclear weapons is one of the tasks of the second decade of disarmament.

The USSR's readiness to conclude a special agreement with any nonnuclear state was greeted with tremendous interest at the UN General Assembly special session on disarmament in 1978. The thrust of this agreement is that the Soviet Union will never use nuclear weapons against those states which do not produce and acquire these weapons and do not have them on their territory. In its concluding document the special session called on nuclear states to give assurances that they will not use nuclear weapons against nonnuclear states and will not threaten them with their use. Subsequently, on this basis, the USSR proposed the conclusion of an international convention on strengthening security guarantees for nonnuclear states. The adoption of this proposal could help considerably to reinforce the nonproliferation of nuclear weapons.

The task of reducing the threat of nuclear war is helped by the Soviet proposal for the nuclear powers to renounce the siting of nuclear combat systems and stockpiles of nuclear warheads, bombs, shells and mines in places where there are none.

In this instance it is a question of supplementing pledges formerly adopted by nuclear states to go to the aid of nonnuclear states in the event of a nuclear attack or threat of attack. It is proposed that new pledges be adopted: Not to use nuclear weapons against countries which do not have them.

The Soviet Union also wholly supports the desire of the nonnuclear states to protect their territories and peoples from involvement in nuclear conflict by creating nuclear-free zones. The USSR is party to Protocol II of the Treaty for the Prohibition of Nuclear weapons in Latin America (the Tlatelolco Treaty) and thereby assumed a commitment to observe the status of a nuclear-free zone on this continent. It is known that the Soviet Union supports ideas for creating nuclear-free zones in other regions, in particular former Finnish President U. Kekkonen's idea for the creation of a nuclear-free zone in northern Europe. The Soviet position on this question takes account of the fact that countries which preserve their nuclear-free status, that is, do not acquire and produce nuclear weapons and do not allow them to be deployed on their territory, are thereby reinforcing nonproliferation and making their own contribution to reducing the threat of the outbreak of nuclear war.

There is a growing understanding in the world of the urgent need to stop the nuclear arms race, and achieve nuclear disarmament. At the last UN General Assembly session on 9 December 1981 an overwhelming number of states voted for the UN General Assembly declaration, proposed by the Soviet Union, on averting nuclear catastrophe which declared the first use of nuclear weapons to be a very grave crime against mankind.

However, the United States and its closest military and political allies did not support this decision. They thereby demonstrated to the whole world their reluctance to take part in the process of averting the danger of nuclear death creeping over the globe.

In response to the growing nuclear threat the Soviet Union is working out ways to curb the escalation of tension and lower the level of military confrontation. "The Soviet Union," Comrade L.I. Brezhnev stressed in his letter to Japanese writers who authored an appeal against nuclear war, "is ready to liquidate its nuclear arsenal, but, of course, only if all other states with nuclear weapons also do so." This is not merely a demonstration of our good will, but a clear and considered position reflecting the socialist nature of our state and the peaceableness of its foreign policy.

## 'PRAVDA' Urges Measures

### LD171107 Moscow TASS in English 1040 GMT 17 Apr 82

[Text] Moscow, 17 April, TASS -- It is necessary to prevent proliferation of nuclear weapons, the newspaper PRAVDA urges.

"The problem of nuclear non-proliferation is a component part of the global task of preservation of peace, consolidation of international security, restraining of the arms race. This task is particularly acute in conditions when the number of countries, having nuclear weapons increased, and broader became the circle of the so-called 'near-nuclear' states, which for thier scientific-technical and economic potential could produce nuclear weapons themselves."

In the 1970's PRAVDA recalls, a number of political and legal measures, both multilateral and national, were taken with a view of preventing nuclear proliferation. The whole complex of these measures and the international practice, which was established on their basis, they started calling "nuclear non-proliferation regime," which on the whole proved its vitality and efficiency. It undoubtedly helps maintain the stability of the present-day international relations, creating simultaneously a solid basis for broad development of international cooperation in the sphere of peaceful uses of atomic energy.

The foundation is the nuclear nonproliferation treaty, which was elaborated on the Soviet Union's initiative. The treaty entered into force in March 1970, and now 117 states are signatories to the treaty.

"One of the main tasks now is to broaden the circle of states, signatories to the nuclear non-proliferation treaty," PRAVDA stresses. About 50 countries, including two nuclear powers -- France and China -- have not yet joined the treaty. The cause of a particular anxiety is the fact that about a dozen of "near-nuclear," so-called "threshold" states, decline participation in the treaty. Among them are such states as Israel, the Republic of South Africa, Pakistan which do not conceal their nuclear ambitions. But Washington, heightening international tension and escalating the arms race, indeed renders political and military support to the pro-imperialist regimes, irrespective of their stand on questions of non-proliferation of nuclear weapons. This course actually leads to encouragement of nuclear ambitions of such countries as Israel, South Africa, Pakistan.

The United States lifted the ban on military aid to Pakistan, though, as is well known, work is under way in that country to develop an atomic bomb. Another example is Washington's support to Israel in connection with its bandit attack on the Iraqi nuclear research center, which is intended for peaceful purposes.

In the present-day conditions, PRAVDA believes, "it would be useful to put under control of the International Atomic Energy Organization all nuclear activities in countries, recipients of nuclear materials, equipment and technology and also to cover all exporting countries with agreed-upon measures of control."

The newspaper writes that "adoption of further efficient steps to prevent proliferation of nuclear weapons is one of the most important problems of international politics. As was repeatedly stated competently, the Soviet Union is ready to cooperate with other states in this solution."

CSO: 5100/2155

## FEDERAL REPUBLIC OF GERMANY

### NUCLEAR AID TO ARGENTINA TO BE ADDRESSED

LD241330 Hamburg DPA in German 1144 GMT 24 Apr 82

[Text] Bonn, 24 Apr (DPA) -- The Federal Government will comment in the Bundestag on nuclear cooperation with Argentina and once again clearly reject the charges made in a British BBC television film that the Federal Republic assisted that country in developing a nuclear bomb. Questioned by DPA, a Research Ministry spokesman confirmed today in Bonn that this will be in a comprehensive government reply to parliamentary questions.

SPD Deputy Klaus Thuesing was the first to ask the Federal Government for information on what it has done so far to reject the statements in the controversial television film, and since then notice has been given of furtther questions from coalition deputies, and also from parliamentarians of the CDU/CSU opposition. It was reported that when this topic is dealt with in one of the Bundestag's next question hours -- possibly next week -- emphasis will be placed on the consensus of all Parliamentary Groups and the government that the Federal Republic's conscience is absolutely clear concerning cooperation with Argentina in the peaceful use of nuclear energy.

GoverNment Spokesman Lothar Ruehl, in connection with the screening of the television film, has already repeatedly rejected the claims made in it that Bonn at least indirectly aided development work on an Argentine nuclear bomb and as a result of inadequate surviellance contributed to Buenos Aires soon being able to sell plutonium for the manufacture of nuclear weapons to other states. He pointed out that in its safety requirements the Federal Government adheres strictly to the agreements of the International Atomic Energy Agency in Vienna.

CSO: 5100/2153

## GOVERNMENT AGAIN DENIES NUCLEAR AID TO ARGENTINA

LD291534 Hamburg DPA in German 1329 GMT 29 Apr 82

[Text] Bonn, 29 Apr (DPA) — The Federal Government has again denied most emphatically the alleged German cooperation with Argentina in the construction of nuclear weapons. During question time in the Bundestag, Minister of State at the Foreign Ministry Peter Corterier (SPD) today gave the assurance, in connection with accusations to this effect on British television, that no enriched uranium had been supplied illegally from the Federal Republic to Argentina. Neither was there any cooperation in the construction of a reprocessing plant.

Commenting on information that Argentina was able, with the help of enriched uranium from the USSR and of German nuclear technology, to manufacture nuclear bombs within the country, Corterier said that Bonn had no knowledge indicating that such fears were justified. He pointed to a statement by the EEC Commission in Brussels which he said made it clear that the various agreements between the Federal Republic and Argentina in the field of nuclear cooperation were in full accord with the agreements on the peaceful use of nuclear energy.

CSO: 5100/2153

FRANCE

# INDUSTRY MINISTER DISCUSSES FACTORIES FOR IRRADIATED FUEL TREATMENT

Paris REVUE GENERALE NUCLEAIRE in French Jan-Feb 82 p 61

[Article: "Scientific Commission on Management of Irradiated Fuels"]

[Text] Following is a letter from the minister of industry to the chairman of the Higher Board of Nuclear Safety:

"... Composed, as is evident from the contacts you have had with my colleagues, of leading figures in the scientific and technical fields, and presided by Mr Castaing, member of the Academy of Sciences, this working group is expected to provide the government with a clear and thorough insight into the current technical situation as regards reprocessing, its evolutionary outlook, the options to which we are presently committed, and our envisionable variants or alternative solutions.

"As you know, by government decisions, work is under way on the modernizarion and expansion of the La Hague establishment's UP2 plant, and work on the new UP3 A plant will start in April 1982. The group will examine the projects involved, particularly from the standpoint of the projected improvements in the operation of the establishment. In addition, as part of the study of envisionable alternatives to reprocessing, it will submit an analysis of the solutions currently being studied, abroad as well if applicable, accompanied by recommendaations as to any research or experimental programs it may deem appropriate to pursue, with other countries as well should this also be deemed advantageous. From a more general standpoint, the group will submit any recommendations designed to keep France in the forefront of the technological competence needed to ensure optimal management of irradiated fuels.

"This group may hear any person whose contribution it may consider desirable, and particularly, the officials of the CEA [Atomic Energy Commission] and the COGEMA [Nuclear Materials General Company]; it will establish regular contacts with the local elected officials concerned in regard to the reprocessing plants at La Hague and Marcoule, as well as with the labor organizations representing the personnel of these plants.

"I desire to be kept informed of the progress of this work and would highly value a report on all the problems associated with reprocessing, drawn up by this working group, then discussed within the Higher Board on Nuclear Safety, and forwarded to me within 1 year. Should a fundamental question arise such as would justify bringing it to the attention of the government or the Parliament, the group should notify me immediately through your office."

9238
CSO: 5100/2136

# BUDGET, PERSONNEL OF REACTOR IN GRENOBLE DESCRIBED

Paris REVUE GENERALE NUCLEAIRE in French Jan-Feb 82 p 61

[Article: "The HFIR After 10 Years"]

[Text] The HFIR [high-flux isotope reactor] of the ILL [Laue Langevin Institute] at Grenoble has just celebrated its 10th birthday. It was on 16 December 1971 that it attained for the first time its nominal power of 57 MW. Its balance sheet at the conclusion of this 10-year period of operation results highly positive, and justifies the agreement signed recently in London prolonging the use of the reactor to 1992.

The institute was founded in 1967 jointly between France and the FRG; the United Kingdom joined these two countries in 1973. The members of the Institute are now the CNRS [National Center for Scientific Research], the AEC [Atomic Energy Commission] (France), the Kernforschungszentrum Karlsruhe (FRG), and the Science and Engineering Research Council (United Kingdom).

The ILL operates the only operational high flux reactor in Europe, furnishing neutrons from it for research in solid state physics, metallurgy, chemistry, biology, nuclear physics and elementary-particle physics. The Institute is primarily for the use of the member countries, but the scientists of any other country may come there to carry out experiments judged to be of an advanced nature. From the standpoint of its technical equipment, its instruments and its scientific methods, the ILL occupies a leading position in the scientific world.

Each year, the Institute welcomes some 1,700 researchers from some 150 different laboratories who come there to perform experiments using the HFIR, generally with the assistance of the personnel of the ILL. The 33 different available instruments make possible the simultaneous actualization of a large number of experiments. Between 1,000 and 1,200 proposals for experiments are submitted each year to the Scientific Board, which selects some 700-800 of them for actualization.

The staff of the Institute currently numbers 435 employees, some 100 of whom are scientists. Its 1981 budget totaled around 157 million francs. A modernization program, approved in 1979 and due to be completed in 1985, provides for a renewal of its scientific and technical installations.

In a forthcoming issue of REVUE GENERALE NUCLEAIRE, we will go into more detail on the characteristics and utilization of the ILL reactor.

9238
CSO: 5100/2136

## FRANCE

# NUCLEAR MATERIALS FIRM REVEALS URANIUM, RECYCLING ACTIVITIES

Paris REVUE GENERALE NUCLEAIRE in French Jan-Feb 82 pp 76-77

[Article: "Uranium Exploitation, Enrichment, Reprocessing: The Orientations of COGEMA"]

> [Text] In its November-December 1981 issue, COGEMAGAZINE--the COGEMA [General Nuclear Materials Company] house organ--publishes a substantial body of information on the development of COGEMA's activities. C. Gobert, manager of its Natural Uranium Division, J. F. Petit, president of EURODIF [European Diffusion Agency], and S. Aycoberry, manager of the Reprocessing Division, in a series of interviews, discuss in much detail the insertion of the enterprise's activities into the natural and socioeconomic local environment. Information is also given in comparable detail on the orientations of COGEMA in its three major domains of activity.

## Uranium: The World's Leading Producer

Concerning the exploitation of uranium, COGEMAGAZINE notes that, taking into account all of COGEMA's holdings, COGEMA supplied in 1980 between 18 and 20 percent of world production (socialist bloc excluded), becoming thus the planet's leading producer. With respect to the company's mining activities in the metropole, C. Gobert indicates:

"We have two objectives: To protect to the greatest possible extent our mining activities in France from the current slump in the world uranium market, and to continue to prospect new regions for our crews and increase the proved mining potential in the regions we are now working.

"The first objective means that we must watch very closely our production costs and establish well-thought-out production programs. Need we be reminded that the international price index of uranium has dropped by about half its level in 2 years? This has compelled us to make major sacrifices to maintain our production programs at a high level.

"The second objective means that our exploitation programs in France, if they can be adjusted opportunely, will continue. The results obtained, for example, at Coutras--where more than 20,000 tons of uranium have been discovered--certainly encourage perseverance. The fact is that our national uranium is the best there is and we very much expect to go on discovering more of it."

## EURODIF's Foreign Currency Earnings: 8 Billion Francs Annually

Pointing out that EURODIF's capacity (10.8 million UTS [separation work units]/yr) --which will very shortly be attained--will make it the world's second largest producer of uranium enrichment services, COGEMAGAZINE evaluates the foreign currency earnings attributable to the Tricastin plant. "Half of EURODIF's annual sales," it indicates, "will be exports under firm contracts. During its construction period as well as during its exploitation period, its contribution to the French balance of payments has already been positive. By mid-1980, the net foreign exchange revenues brought in by the project had already reached 7 billion francs. During the 1982-1990 exploitation period, its net foreign exchange earnings will be of the order of 8 billion francs annually.

"It is pointed out, moreover, that the initial planning as well as the initial budget have been strictly adhered to. The latter, in terms of current money, comes to about 15.5 billion francs, which, taking into account interim interest charges and start-up expenses, represents an investment of 23 billion current francs.

## Recycling of Depleted Uraniums

Depleted uraniums that issue from the EURODIF plant as secondary products can be recycled in fast reactors. "For the very long term and as a function of the penetration of of fast reactors," COGEMAGAZINE points out, "these uraniums represent a sizable energetic potential." In this regard, COGEMAGAZINE cites the following information:

"The recycling of depleted uraniums makes available around 60 percent of the energy contained in these uraniums versus only 0.6 to 0.7 percent without recycling and 1 percent with recycling in thermal reactors such as a PWR [pressurized water reactor].

"The recycling of EURODIF rejects that can be done in fast reactors could produce 5.4 million kW-hrs/kg of depleted uranium, that is, 1.2 million tep [tons equivalent oil] per ton of uranium.

"Considering that EURODIF rejects total around 10,000 tons/yr of depleted uranium, that is, 300,000 tons over a period of 30 years, this represents a deposit of 360 gtep [giga-tons equivalent oil] that becomes available.

"This potential very-long-term resource represents three times the world's known oil reserves. This is why COGEMA, considering the legacy owed to future generations, has decided to build Plant W to convert EURODIF's depleted UF6 output into a stable product--U308--which can be stored without major problems pending its eventual use during the fast reactor cycle."

## UP 2 800 and UP 3: Automation and Master/Slave Manipulation

With regard to the expansion of La Hague--which will provide COGEMA with a reprocessing capacity to the tonnage of irradiated fuels produced by the EDP [French Electric [Power] Company] as of the mid-1990's--COGEMAGAZINE comments specifically on technical context that will mark the actualization of UP 2 800 and UP 3:

"These two units will benefit from the experience acquired over 23 years of operation of the Marcoule plant and 15 years of operation of La Hague. The procedures and equipment to be put in place there will be the most recent, developed, fine-tuned and tested industrially by the specialized services of the AEC [Atomic Energy Commission].

"The very severe internal radiation-safety objectives that have entered into the design of these future plands requires an advanced degree of automation of all operations that could present a hazard in the form of irradiation or contamination of personnel, and the systematic adoption of master/slave manipulation equipment for the disassembly from a distance of the equipment installed in circuits carrying radioactive fluids.

"Lastly, these plants will be equipped with all the necessary installations for the on-line processing of all the waste they produce. Any ensuing liquid rejects will remain within the limits set by the decrees relative to the existing UP2 plant, which has only one-fourth the capacity. The desired result will be achieved through a special effluents-recycling feature of the processing and a substantial improvement in the performance characteristics of the effluents-processing station."

9238
CSO: 5100/2134

# ACTIVITIES, LAYOUT OF LA MANCHE RADIOACTIVE WASTE FACILITY

Paris REVUE GENERALE NUCLEAIRE in French Jan-Feb 82 pp 78-79

[Excerpt] The ANDRA [National Agency for Managing Radioactive Waste] recently published an introductory brochure on the La Manche Facility for the storage of short-lived radioactive waste (low and moderate activity).

Situated at the tip of Cotentin, 25 km west of Cherbourg and in the immediate vicinity of the La Hague reprocessing plant, this facility occupies an area of 12 hectares. Waste is stored there in shallowly buried structures (monoliths) or in surface structures (tumuli) covered over with a waterproof clay topping, then with loam.

These wastes, the ANDRA brochure indicates, contain essentially short-lived radioelements (half life less than 30 years).

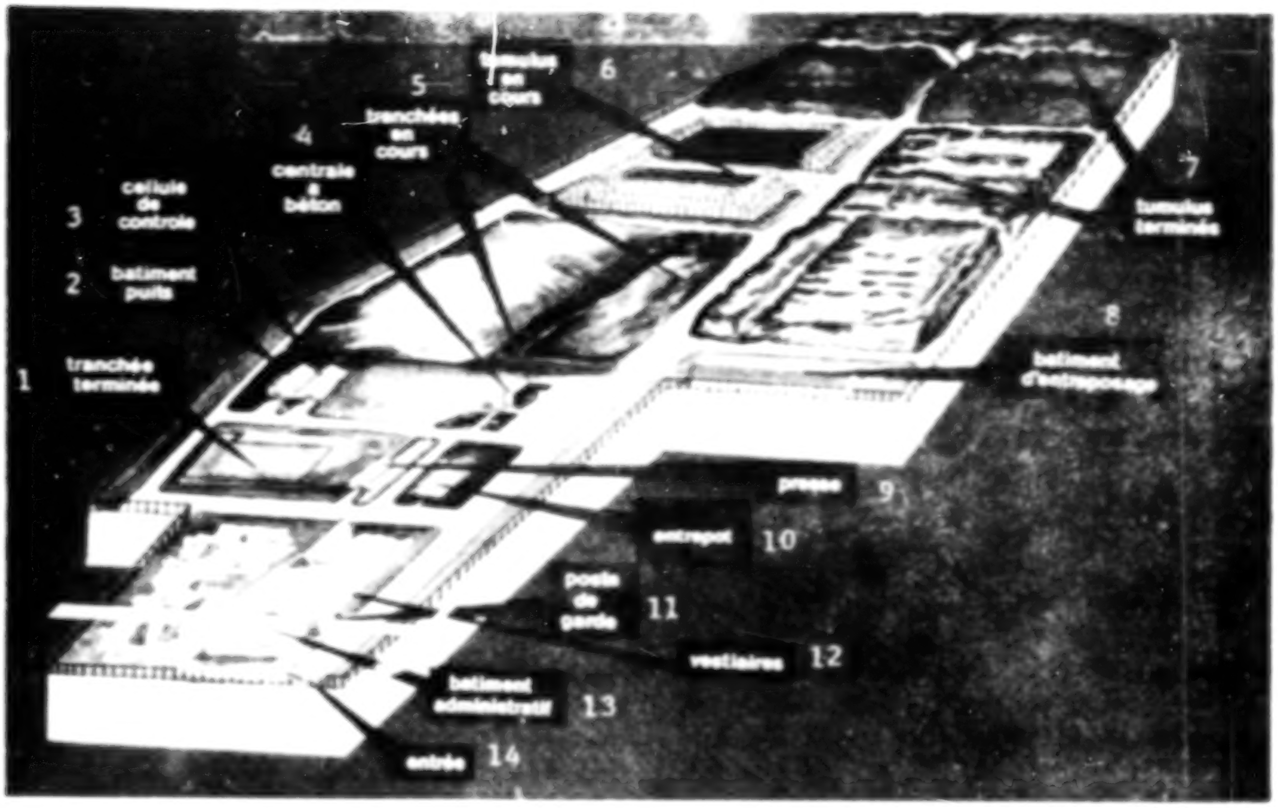
"Most of this waste comes from nuclear power plants, and the rest from fuel-cycle plants, large research laboratories and users of radioelements. This waste, commonly called 'low- and moderate-activity waste,' represents over 90 percent by volume of all radioactive waste, but only 1 percent of total radioactivity.

"The total amount of it produced until the year 2000 will be less than 1 million cubic meters. It is stored on the surface or at very shallow depths at sites like the La Manche Facility.

"At present," ANDRA states, "only short-lived waste is being definitively stored. Radioactive materials are being confined and isolated from the human environment for a sufficiently long period of time to enable their activity to drop to a level at which the potential hazard they represent becomes negligible.

"The overall life of a storage facility for short-lived waste can thus be divided into three phases:

"--The operational period during which the waste is being put in place and the containment structures built. This period may last 10-20 years.



Key:

1. Completed trench
2. Shaftways building
3. Monitoring compartment
4. Concrete packaging facility
5. Trenches under construction
6. Tumulus under construction
7. Completed tumulus
8. Warehouse building
9. Press
10. Warehouse
11. Guard station
12. Dressing rooms
13. Administration building
14. Entrance

The Facility occupies an area of 12 hectares where the short-lived radioactive waste is stored in containment structures buried at shallow depths (monoliths) or in surface structures (tumuli) that will be covered with a stratum of waterproof clay followed by a loam topping.

Alongside the storage zones are the operations buildings: Administration building, monitoring compartment, compacting press, sheathing station, concrete packaging facility, warehousing facility (temporary warehousing of a few packages containing long-lived waste).

"--The period of surveillance that follows operations. During this period, no more construction work is done (except for any necessary repairs), but surveillance is maintained. The site remains the property of the state and access to it is controlled. This period may last 200-300 years.

"--The period of normalization, during which there is neither surveillance nor intervention. At this time, access to the site can be uninhibited."

The ANDRA brochure provides a mass of detailed information on radioactive waste and on the organization and storage methods used at the La Manche Facility. Its illustrations are profuse, well chosen and contribute to making this brochure an excellent source of information and a good summary document on one of the least-known aspects of this end of the fuel cycle.

[Captions]:

Storage in monoliths: Structural panels are used in the dugout to delimit coffers. A metallic reinforcement frame is placed on the bottom and the cell walls of the compartment to ensure the bonding of the monolith. The packages of waste are then lowered into it by means of a crane.

Storage in tumuli is used over the buried monoliths which form a vast reinforced concrete platform covered with asphalt. The area thus occupied is girded by a trench designed to collect the runoff waters during the construction period, and to enable monitoring of the absence of water infiltration after the structure has been completed.

The storage structures have a dual function: To protect the packages against all attack from the outside and, should such attack occur, to reduce the consequences.

This dual function is performed by a series of "barriers": The earth, clay and gravel of the tumuli, the concrete of the monoliths, the package walls and the material in which the waste is sheathed.

The structures are designed to withstand earthquakes. They are sealed against rain and underground waters. At the base of the monolits and the tumuli, a monitoring network, accessible via underground shafts, enables checking of the waterproofing of the structures. This network is distinct from that which collects rain and runoff waters at the base of the tumuli.

Here, storage takes the form of a tumulus, girded by a trench designed to collect the rainwater that runs off the clay stratum. The clay is topped with loam.

An appropriate vegetational cover is planted in the loam to bind the earth together and provide evapotranspiration.

Here, local vegetation has already started to grow on its own so well that these mounds are becoming naturally a part of the surrounding environment.

9399
CSO: 5100/2135

# SOUTH KOREA CHOOSES ALSTHOM FOR NUCLEAR EQUIPMENT

Paris REVUE GENERALE NUCLEAIRE in French Jan-Feb 82 p 88

[Article: "Korea 9 and 10: Alsthom-Atlantique To Furnish the Conventional Portion"]

[Text] South Korea has finally chosen Alsthom-Atlantique to furnish the turbo-alternator sets and other equipment for the conventional portion of Sections 9 and 10 of the country's nuclear program. This choice concludes a very lively competition that pitted against each other the French group, a Swiss company (Brown-Boveri and Company), American companies (Westinghouse and General Electric), a British company (General Electric Company) and a Japanese company (Mitsubishi).

The contract, valued at over $400 million, is to be signed in the very near future. In a release dated 4 December 1981, Alsthom-Atlantique indicates it will provide the engineering of the conventional portions of Korea 9 and 10, while a "sizable portion" of the equipment will be provided by Korean industry.

It is recalled that the reactor cores and the fuel for these two sections will be provided respectively by FRAMATOME [Franco-American Atomic Construction Company] and COGEMA [Nuclear Materials General Company]. The actualization of Korea 9 and 10 will thus be essentially French; the signed contracts will represent a total of almost $1.4 billion.

These two units of the 950-MW(E) class will be installed on the east coast at some 250 km from Seoul. By way of a vast nuclear power program currently under development, Korea plans to have available, by the 1990's, an installed nuclear power capacity of 16,000 MW(E).

9238
CSO: 5100/2136 END

# END OF FICHE

# DATE FILMED

May 25, 1982